West Virginia Office of Miners' Health, Safety and Training

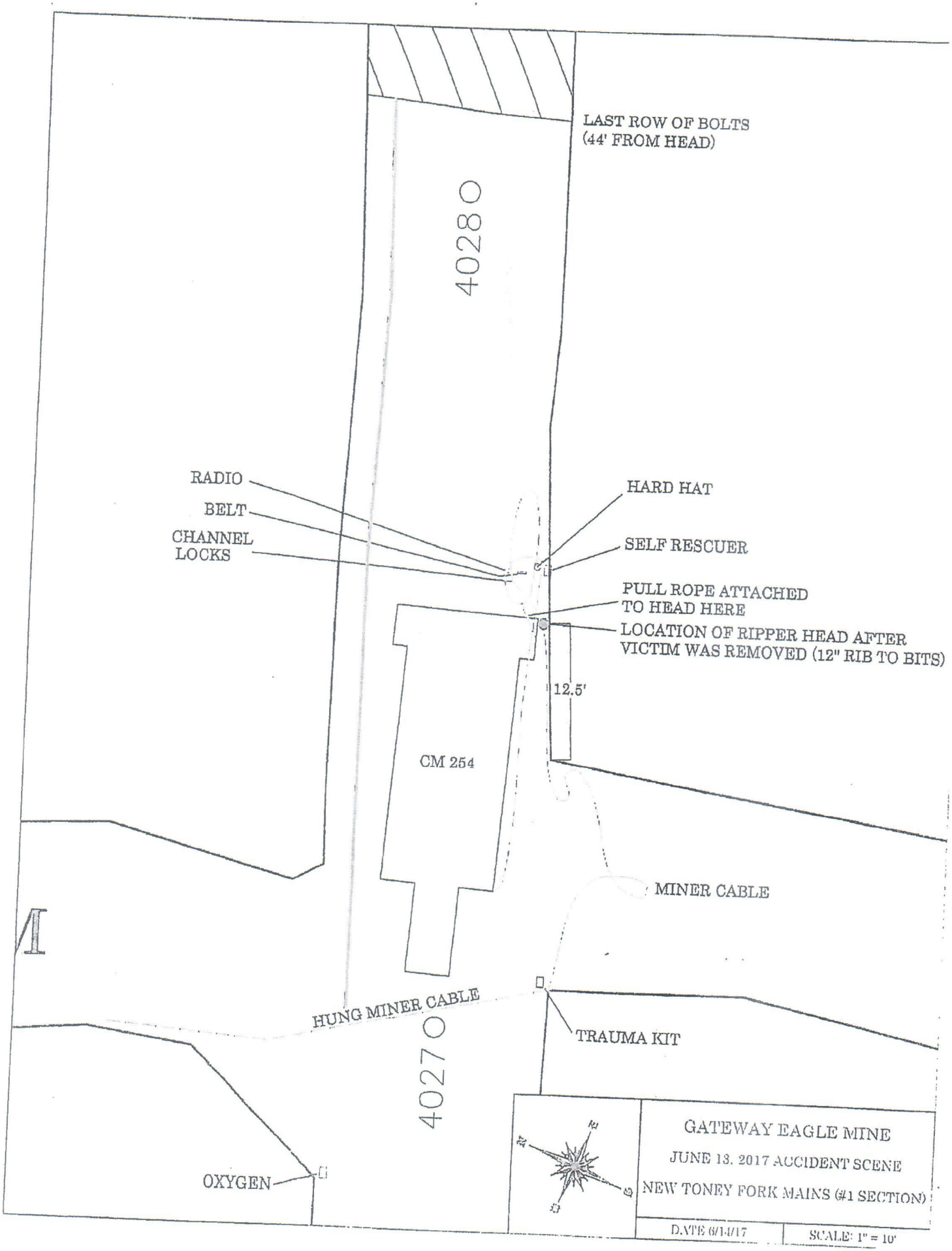
JUNE 13, 2017

Report of Investigation
Underground Coal Mine Fatality
Machinery / Crushing

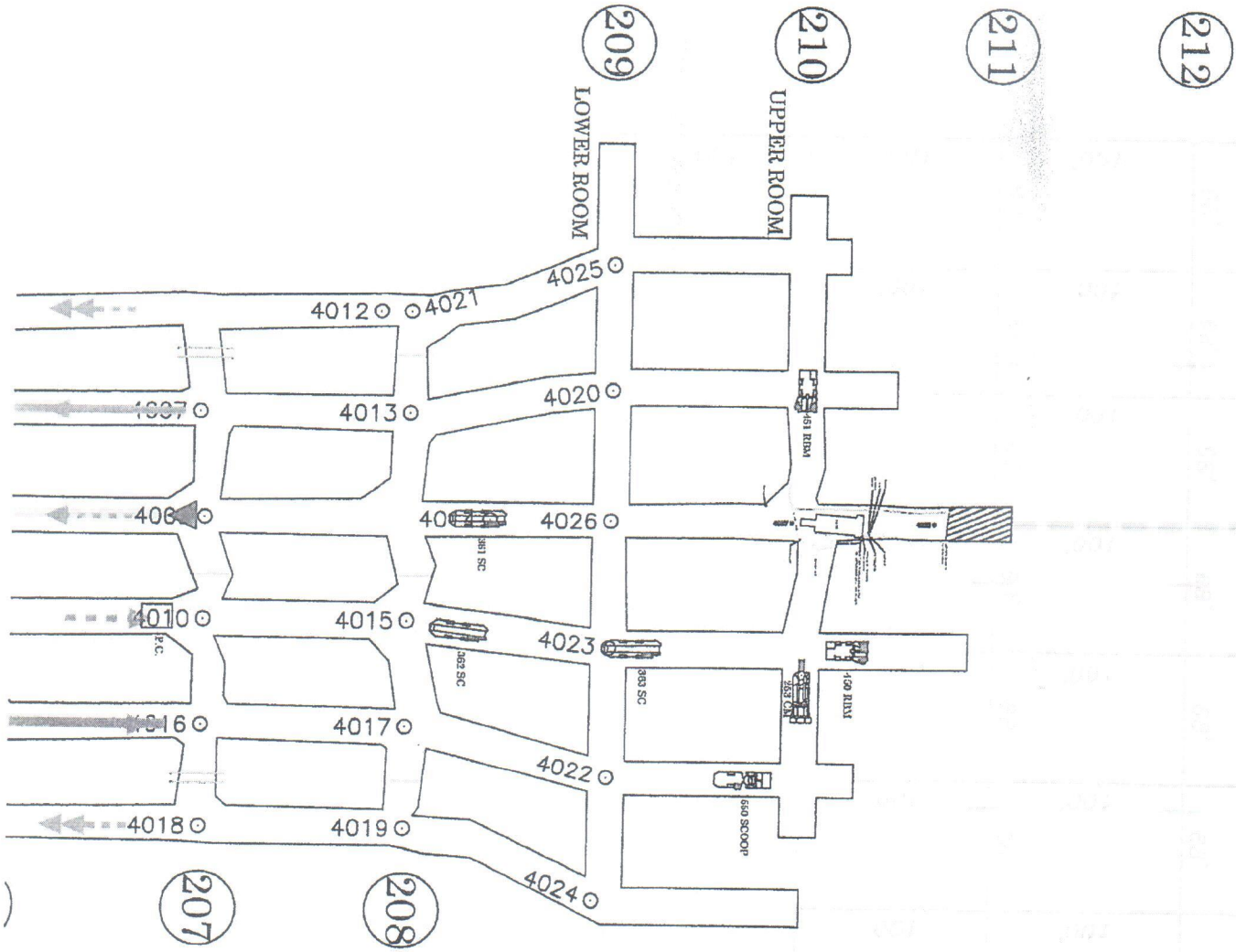
Rockwell Mining LLC
Gateway Eagle Mine
Permit Number D00008482C

Region III
137 Peach Court, Suite 2
Danville, West Virginia 25053
John Kinder, Inspector-at-Large

TABLE OF CONTENTS


LAST ROW OF BOLTS
(44' FROM HEAD)
40280
RADIO
BELT
CHANNEL
LOCKS
HARD HAT
SELF RESCUER
PULL ROPE ATTACHED
TO HEAD HERE
LOCATION OF RIPPER HEAD AFTER
VICTIM WAS REMOVED (12" RIB TO BITS)
12.5'
CM 254
MINER CABLE
HUNG MINER CABLE
TRAUMA KIT
40270
OXYGEN
GATEWAY EAGLE MINE
JUNE 13, 2017 ACCIDENT SCENE
NEW TONEY FORK MAINS (#1 SECTION)
DATE 6/13/17
SCALE: 1" = 10'

MMU-010-0



MMU-011-0

Time Line

June 13, 2017

10:45 a.m. – Rodney S. Osborne started work early on the day shift.

3:00 p.m. – Mr. Osborne travels to the surface for start of his regular shift.

3:30 to 3:35 p.m. – Section crew arrives on the No. 1 section.

4:11 p.m. – Mr. Osborne started mining in the No. 1 upper and lower rooms off the No. 1 entry.

8:40 p.m. – Mr. Osborne completed the mining cut in the No. 3 entry.

8:47 p.m. – Accident occurs.

8:53 p.m. – Mine and Industrial Accident Emergency Operations Center notified.

8:56 p.m. – John Kinder Region 3 Inspector at Large notified.

9:16 p.m. – Boone County Ambulance, Unit 60 arrives at mine site.

9:22 p.m. – Mantrip arrives on the surface with Mr. Osborne.

9:37 p.m. – Dr. Marie Nowak, M.D. pronounces Mr. Osborne deceased through Central Med Base.

10:00 p.m. – West Virginia Office of Miners' Health, Safety and Training Inspectors arrive on mine property.

General Information

This report is based on an investigation conducted in accordance with Chapter 22A, Article 1, Section 14 of the mining laws of the State of West Virginia.

Rodney S. Osborne, an employee of Rockwell Mining LLC, Gateway Eagle Mine located in Boone County on Route 85 near Bald Knob, West Virginia, was fatally injured in an accident at approximately 8:47 p.m. on June 13, 2017. Mr. Osborne was operating a Joy Model 14CM15-JM5801 (continuous miner) on the No. 1 section in the No. 3 entry when he received a fatal crushing injury after being pinned between the continuous miner cutter head and the coal rib.

The Mine and Industrial Accident Emergency Operations Center (MIAEOC) was notified of an accident at 8:53 p.m. by Mr. James Lovejoy, the tracking and communication dispatcher at the Gateway Eagle Mine. Mr. John Kinder, Inspector at Large Region 3, West Virginia Office of Miners' Health, Safety and Training (OMHST), was notified of the accident at 8:56 p.m. A joint investigation with Mine Safety and Health Administration, Mine Management and UMWA (United Mine Workers of America) representatives was started immediately.

Description

Rockwell Mining LLC, was permitted to operate the Gateway Eagle mine on October 15, 2015. The mine is located in Boone County on Route 85 near Bald Knob, WV. This drift mine is in the eagle seam and has five (5) openings and operates two (2) super sections with split air ventilation. The mine produces coal during two (2) nine (9) hour shifts and has one (1) nine (9) hour maintenance shift repairing equipment, advancing belt and power with a total of one hundred sixteen (116) employees. All shifts change out on the section (hot seat). The mining height is from seven (7) to eight (8) feet. Diesel rubber tired equipment is used to transport supplies and mine personal. Coal is transported by use of conveyor belts.

Mr. Osborne started employment at this mine on Wednesday, January 25, 2017 as a roof bolter operator. Mr. Osborne was assigned to perform the duty of continuous miner operator on April 11, 2017 on the No. 1 section. On Tuesday, June 13, 2017, Mr. Osborne started early on the day shift at 10:45 a.m. Mr. Osborne traveled with Mr. Randall Osborne (brother) to the No. 7 belt drive and worked until the end of the day shift, then traveled to the surface at 3:00 p.m. Mr. Osborne then proceeded from the surface to the No. 1 section with the crew. After arriving on the section at approximately 3:30 to 3:35 p.m. a brief safety meeting was held by Mr. Christopher Atkins (Section Foreman). Mr. Osborne then started operating the left side continuous miner in the No. 1 upper and lower rooms off the No. 1 entry at approximately 4:11 p.m. After completion of mining in the No. 1 rooms, Mr. Osborne trammed/placed changed the continuous miner to the No. 3 entry. Mr. Osborne completed mining the No. 3 entry at approximately 8:40 p.m. Mr. Densil Blankenship (Center Shuttle Car Operator) hauled the last load of coal and parked the

shuttle car outby and proceeded back to the No. 3 entry to help with the move of the continuous miner. Mr. Blankenship walked up to the continuous miner conveyor boom and observed Mr. Osborne pinned between the continuous miner cutter head and the coal rib on the operator's side. Mr. Blankenship then went to the left side roof bolter and informed Mr. Christopher Atkins (Section Foreman), Mr. Steve Elswick (Left Side Roof Bolt Operator) and Mr. Jarrod Terrell (Left Side Roof Bolt Operator) what he observed. Mr. Atkins and Mr. Elswick went to the continuous miner and saw Mr. Osborne pinned between the continuous miner cutter head and the coal rib. Mr. Elswick then checked for a pulse and testified, "none was found". At that time, Mr. Elswick stated that Mr. Atkins became overwhelmed and he left the scene and went to the section mine phone to report the accident and to help retrieve first aid equipment. The first aid equipment was brought to the No. 3 entry from the section power center by Mr. Mark Stepp (Right Side Shuttle Car Operator). Mr. Elswick asked for a few men who can handle this kind of event to assist him. Mr. Elswick asked Mr. Dave Havey (Right Side Continuous Miner Operator) to help. Mr. Havey replied "I don't know if I can do this". Mr. Elswick then said, "you must, I don't have a PTO (Power Take Off) to operate the continuous miner, I need you". Mr. Elswick removed Mr. Osborne's remote control box and gave it to Mr. Havey. Mr. Elswick then went to the front of the continuous miner with Mr. Rusty Nelson (Electrician) and Mr. Daniel Moore (Right Side Roof Bolter Operator). On the count, of 3 Mr. Elswick instructed Mr. Havey to move the continuous miner to the left away from Mr. Osborne. Utilizing the ESO (Emergency Stop Override) to bypass the proximity detection system, Mr. Havey moved the continuous miner. Mr. Elswick and Mr. Jarrod Terrall lowered Mr. Osborne to the mine floor. Mr. Elswick then instructed Mr. Havey to move the continuous miner away from them. While moving the continuous miner, Mr. Havey stated that "he noticed that one of the cats had spun and tried to kick back in the direction of the right rib". Mr. Osborne was then placed on a backboard and loaded onto a Brookville mantrip that was located at the outby end of the continuous miner. Boone County Ambulance Unit 60 arrived at the mine site at 9:16 p.m. The mantrip arrived on the surface at 9:22 p.m. An Electrocardiogram was performed by the Boone County Ambulance Authority Medics. Boone County Ambulance Authority Unit 60 then transported Mr. Osborne from mine property. Mr. Osborne was pronounced deceased by Dr. Marie Nowak, M.D. at 9:37 p.m. through Central Med Base.

Findings of Fact

1. Mr. Osborne received his underground coal miner certificate on April 9, 2008.
2. Mr. Osborne had 10 years'experience in the coal mining industry.
3. Mr. Osborne was employed by Rockwell Mining, LLC Gateway Eagle Mine on January 25, 2017 as a roof bolter operator and was trained on the proximity detection system and the deep cut plan when he began employment. Mr. Osborne was assigned to continuous miner operator on April 11, 2017.
4. Mr. Osborne started work early on the day shift on Tuesday June 13, 2017 at 10:45 a.m. to work outby.
5. Mr. Osborne returned to the surface to begin his regular shift at 3:00 p.m.
6. Mr. Osborne mined the upper and lower left rooms off No. 1 entry prior to mining the No. 3 entry.
7. The No. 3 entry measured nineteen (19) feet and three (3) inches wide at the accident site.
8. The mine floor in No. 3 entry where the accident occurred was wet with irregularities (ledges) on the left side of the entry.
9. After completing the mining cut in the No. 3 entry, Mr. Osborne was alone and tramming/place changing the continuous miner out of the No. 3 entry when the accident occurred.
10. Mr. Osborne was operating the Joy Model 14CM15-JM5801 while standing beside the cutter head on the operator's side in a restricted red zone at the time of the fatal accident.
11. Rockwell Mining LLC, Gateway Eagle Mine roof control plan (enclosed herein, see Appendix) states on page 13 of Red Zone Precautions that "When tramming the continuous mining machine to the next place, other than cutting or loading coal, no one will be located along either side of the continuous mining machine, and they will be in a safe location outby the boom and head. All personnel shall remain at least 4 feet outside the Red Zone in all directions.
12. The Joy Model 14CM15-JM5801 continuous miner is equipped with the Joy Smartzone Generation 2 Proximity Detection System.
13. According to witness testimony, Mr. Osborne was wearing his proximity detection sensor pad over his chest area and on his coveralls at the time of the accident.
14. The Joy SmartZone Generation 2 Proximity Detection System was incorporated into the (Emergency Stop Override) ESO electrical circuit allowing the Joy SmartZone Generation 2 Proximity Detection System to be bypassed when the ESO (Emergency Stop Override) is activated.
15. Data downloaded from the Joy SmartZone Generation 2 Proximity Detection System installed on the Joy Model 14CM15-JM5801 continuous miner reveals that Mr. Osborne engaged the (Emergency Stop Override) ESO function and was tramming the continuous miner while located in the red zone alongside the continuous miner cutter head.
16. On June 15, 2017, during testing of the Joy Model 14CM15-JM5801 an intermittent electrical problem or electronic problem occurred in the proximity controller. The proximity system would

shut down and after moderate delay allow the continuous miner to be restarted. During this shutdown period, the only way to restart the continuous miner was to reset the main circuit breaker, then restart or wait a short period for the system to reset itself. Eventually the problem ceased and could not be duplicated. Upon consulting with Matrix technical support, it was theorized that a variation in voltage due to the mine being idle during the investigation could've been the problem.

Conclusion

On June 13, 2017 at approximately 8:47 p.m. coal was being mined on the evening shift at the Rockwell Mining LLC, Gateway Eagle Mine. Mr. Rodney Osborne, No. 1 section left side continuous miner operator was tramming/place changing the continuous miner out of the No. 3 entry while the ESO (Emergency Stop Override) was engaged (based on downloaded information from the Joy Smartzone Generation 2 Proximity Detection System) and was in the restricted red zone area of operation. Mr. Osborne was pinned between the continuous miner cutter head and the right side coal rib and received fatal crushing injuries.

Enforcement Action

- A non-assessed control order was issued in accordance with Chapter 22A, Article 2, Section 68 of the West Virginia Mining Laws to preserve the scene of the accident and to complete an investigation.
- Two special assessments (2) and five (5) regular assessed violations were issued as a result of the investigation of this accident.

(1). Title 36 57 3.1-3.2- (Special Assessment)-
Based upon evidence observed and testimony received under oath during an investigation of a fatal accident that occurred on June 13, 2017, at approximately 8:47 p.m., it was determined that the continuous miner operator was tramming/place changing the Joy model14CM15-JM5801 continuous miner out of the No. 3 mining cut while the ESO (Emergency Stop Override) function was activated/engaged. The ESO function overrides/bypasses the proximity detection system and is only to be used when the proximity detection system is not functioning properly; and then solely for relocating a continuous miner from an unsafe location during malfunction for repair, or for an emergency. Data downloaded from the Joy Smartzone Generation 2 Proximity Detection System installed on the continuous miner reveals that the continuous miner operator engaged the ESO function and then trammed the continuous miner while located in the red zone alongside the cutter head. There is no evidence that the proximity detection

system was not functioning properly at the time while the continuous miner was being trammed. While tramming the continuous miner the continuous miner operator was pinned between the cutter head and the coal rib. Misuse of the ESO (Emergency Stop Override) function in such a manner renders the proximity detection system incapable of stopping the equipment and preventing contact with persons. This is a violation of a health and safety statute, is of a serious nature and involved a fatality.

(2). Chapter 22A Article 2 Section 25(A) (Special Assessment) –

Based on evidence observed and testimony received under oath during an investigation of a fatal accident that occurred on June 13, 2017 at approximately 8:47 p.m., the Gateway Eagle approved roof control plan, dated 1-17-2017, page 13 titled Red Zone (Exhibit A) was not being complied with. The operator of the No. 1 section left side Joy Model 14CM15-JM5801 continuous miner, was tramming/place changing out of the No. 3 entry when the operator entered the RED ZONE. While continuing to operate the continuous miner in the red zone the operator was pinned between the cutter head and the coal rib causing fatal injuries. This is a violation of a health and safety statute, is of a serious nature and involved a fatality. Attached to this violation is a copy of page 13 of the Gateway Eagle approved roof control plan.

(1). Title 36 Series 57 Section 5.2

Maintenance of all proximity detection systems and units worn by individuals shall be maintained in accordance with safe operating procedures. On the No. 1 Section, the Joy Model 14CM15-JM5801 safe operating procedures (as published in the Joy SmartZone manual) states that the red and green driver lights shall alternate when the SmartZone Proximity System is currently being bypassed by a function of the continuous miner. This system was not properly operating, in that red and green driver lights were not alternating when bypassing the machine function (operator activated).

(2). Title 36 Series 57 Section 5.2

Maintenance of all proximity detection systems and units worn by individuals shall be maintained in accordance with safe operating procedures. On the No. 1 Section, the Joy Model 14CM15-JM5839B2 safe operating procedures (as published in the Joy SmartZone manual) states that the red and green driver lights shall alternate when the SmartZone Proximity System is currently being bypassed by a function of the continuous miner. This

system was not properly operating, in that red and green driver lights were not alternating when bypassing the machine function (operator activated)

(3). Title 36 Series 57 Section 5.2

Maintenance of all proximity detection systems and units worn by individuals shall be maintained in accordance with safe operating procedures. On the No. 2 Section, the Joy Model 14CM15-JM5391B safe operating procedures (as published in the Joy SmartZone manual) states that the red and green driver lights shall alternate when the SmartZone Proximity System is currently being bypassed by a function of the continuous miner. This system was not properly operating, in that red and green driver lights were not alternating when bypassing the machine function (operator activated).

(4). Title 36 Series 57 Section 5.2

Maintenance of all proximity detection systems and units worn by individuals shall be maintained in accordance with safe operating procedures. On the No. 2 Section, the Joy Model 14CM15-JM7110 safe operating procedures (as published in the Joy SmartZone manual) states that the red and green driver lights shall alternate when the SmartZone Proximity System is currently being bypassed by a function of the continuous miner. This system was not properly operating, in that red and green driver lights were not alternating when bypassing the machine function (operator activated).

(5). Title 36 Series 57 Section 3.2

A proximity detection system must prevent movement of the equipment if the system is not functioning properly; provided, however, movement is permitted for the purpose of relocating the equipment from an unsafe location during maintenance for repair or emergencies. Based on an investigation of an accident which caused a fatality, data downloaded from the Joy SmartZone Generation 2 Proximity System and sworn testimony given under oath the Emergency Stop Override (ESO) is not being used for its designed purpose, in that the Emergency Stop Override (ESO) while tramming/place changing is being used to by-pass the proximity system on the continuous miners at this mine.

Recommendations

(See Attached)

ROCKWELL MINING, LLC

Rockwell Mining, LLC P O Box 57
Wharton, WV 25208
Phone: (304) 380-0312
Fax: (304) 247-6035

June 16, 2017

Mr. John Kinder
State of West Virginia
Office of Miner's Health, Safety & Training
Danville, WV 25053

Re: CMSP Addendum (Proximity Detection Systems and Red Zones)
Gateway Eagle Mine: D-8482C

Mr. Kinder,

Rockwell Mining, LLC's, Gateway Eagle Mine is submitting the attached addendum to the CMSP in order to increase safety awareness and prevent red zone incidents.

The following provisions will be used to increase red zone safety awareness.

- Red Zone Training
- Proximity Detection Training
- Increased Observations
- Dynamic Testing Procedures
- ESO Policy

If additional information is required or you have any questions, please contact me at the above listed address or phone number. A copy of this plan has been provided to the miners' representative and posted on the bulletin board.

Sincerely,

J. Justin Ray
Manager of Safety

ROCKWELL MINING, LLC

Rockwell Mining, LLC P O Box 57
Wharton, WV 25208
Phone: (304) 380-0312
Fax: (304) 247-6035

1. All underground miners will receive initial training regarding potential red zone hazards. Training shall include classroom and underground instruction. A representative of the proximity detection manufacturer will be present and participate in the training while the mine is under the control order issued on 06/13/2017. Once the control order is lifted, a competent person will conduct the training and the representative of the proximity detection manufacturer will no longer have to participate in the training. The training will be documented on a 5000-23 form.

2. All underground miners will receive training regarding the operation of the proximity detection system. Training shall include classroom and underground instruction. A representative of the proximity detection manufacturer will be present and participate in the training while the mine is under the control order issued on 06/13/2017. Once the control order is lifted, a competent person will conduct the training and the representative of the proximity detection manufacturer will no longer have to participate in the training. The training will be documented on a 5000-23 form.

3. A certified foreman will observe each active continuous miner operator once per normal production shift. The observation(s) will be conducted during place change to ensure the operator is not placing himself in a hazardous position. The results of the observations will be documented in a book on the surface.

4. The Smart Zone Proximity Systems User Guide – Continuous Miners procedure for Dynamic Verification

   Before beginning a shift, test for dynamic verification of the Shutdown Zone. The results of the test will be documented in a book on the surface.

   1. Position the continuous miner in conditions that are consistent with normal operating conditions.
   2. Position an extra locator (one that is not currently assigned to a person) in front of the cutter head.
   3. Standing away from the machine and out of its path, tram the continuous miner forward toward the locator.
   4. Verify that the proximity system stops the continuous miner at a suitable distance prior to contacting the locator.
   5. Repeat the process behind the conveyor tail.
   6. Remove the extra locator from the working area and store appropriately. If the continuous miner fails to stop with adequate distance between the machine and the locator, the continuous miner will be removed from service and corrective actions taken to correct the problem.
   7. Should the machine need moved to a safe location for trouble shooting/repairs, the supervisor will be present during the move to ensure no one is allowed in the "Red Zone".

5. See attached ESO Policy. For the purpose of this policy, Bullet Point #1, Item #2, "safe procedures" to be followed include:

   1. All persons in the affected area will be notified the "ESO" is being engaged.
   2. Mine Management will ensure no one is allowed in the "Red Zone" of the continuous miner while the "ESO" is being used.
   3. The continuous miner will be moved into a safe location with the use of the "ESO".
   4. The "ESO" will be disengaged.
   5. All persons in the affected area will be notified the override is complete.

Emergency Safety Override "ESO" Policy

for Blackhawk Mining LLC

Effective date 6/19/2017

- Except in the case of an imminent danger to the health and safety of a miner, Continuous Miner operators **SHALL NOT** utilize the ESO or other equivalent override procedures for Continuous Miners at any time **unless**:

  1. The continuous miner operator obtains verbal permission from Mine Management, such as Section Foremen or other appropriate mine management personnel; AND

  2. Mine Management must observe the Continuous Miner operator engage the ESO or other equivalent override procedures for Continuous Miners to ensure safe procedures.

- Violation of this policy will result in disciplinary action up to and including termination.

- All employees are required to advise Mine Management of any violations of this ESO or the Continuous Miner RED ZONE policy of each mine.

JEFF SANDS
SENIOR VICE PRESIDENT OF
OPERATIONS

Acknowledgement

The West Virginia Office of Miners' Health, Safety and Training gratefully acknowledges the cooperation of the employees and mine management of Rockwell Mining, LLC Gateway Eagle Mine, Mine Safety and Health Administration and UMWA (United Mine Workers of America) Representative.

Appendix

- Mine Information
- Victim Information
- Roof Control Plan page 13

Mine Information

COMPANY Rockwell Mining, LLC

MINE NAME Gateway Eagle

WV PERMIT D00008482C MSHA MINE ID NUMBER 46-06618

ADDRESS 54912 Pond Fork Road

COUNTY Boone PHONE NUMBER (304) 247-1786 or (304) 247-1785

DATE PERMIT ISSUED October 25, 2015

WORKING STATUS Active

LOCATION Wharton

UNION X NON-UNION

DAILY PRODUCTION 7910 ANNUAL PRODUCTION TO DATE 1.265,617

TOTAL EMPLOYEES 116

NUMBER OF SHIFTS 3

COAL SEAM NAMES(S) AND THICKNESSES Eagle 7 to 8 Feet

ACCIDENT INCIDENT RATE 35.85 LOST TIME ACCIDENTS 11

TYPE OF HAULAGE Shuttle Car

WVOMHST INSPECTOR Gregory Raines

DATE OF LAST INSPECTION June 13, 2017

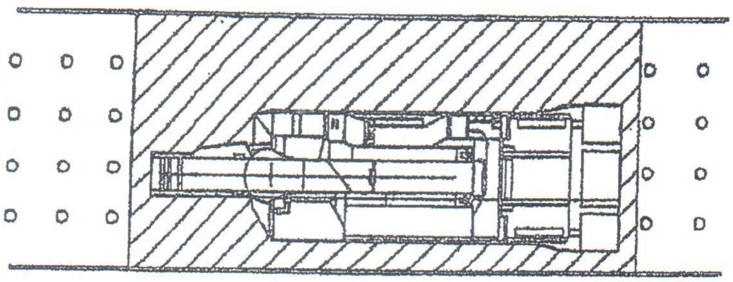
NOTIFIED BY Mine & Industrial Accident Emergency Operations Center

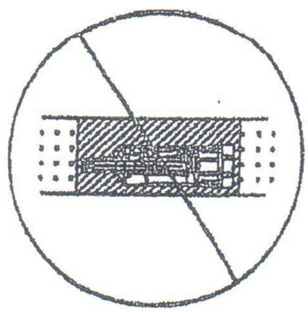
NOTIFICATION TIME 8:53 p.m.

CMSP ANNIVERSARY DATE July 17, 2017

CMSP CONTACT PERSON Chris Williams

RED ZONE PRECAUTIONS
for
Continuous Mining Machines





Restricted Red Zone Area

No person will go inby the continuouns miner operator's work position while the continuous miner is being operated.

Continuous Miner Tramming:

When tramming the continuous mining machine to the next place, other than when cutting or loading coal, no one will be located along either side of the continuous mining machine, and they will be in a safe location outby the boom and head. All personnel shall remain at least 4 feet outside the Red Zone in all directions.

De-energizing the Pump Motor:

The pump motor of the continuous mining machine will be de-energized during loading and unloading of the trailing cable that supplies electrical power to the continuous mining machine.

Emergency Stop Switches:

Any time the continuous mining machine is being operated using a remote control unit, the unit shall be equipped with an emergency stop switch or panic bar that will de-energize the continuous mining machine quickly in the event of an emergency, The emergency stop switch or panic bar shall be prominent and readily accessible.

EXHIBIT A